

# Conditions frequently self-treated with herbal remedies by patients visiting a tertiary hospital in Gauteng, South Africa

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Keywords: chronic conditions, herbal remedies, out-patients, South Africa, traditional medicine

## Abstract

**Background:** Herbal medications are used worldwide for a variety of diseases and conditions. Patients often elect not to disclose their herbal use history, or health care practitioners fail to enquire about specific alternative therapy. The aim of this study was to assess the conditions most frequently self-treated with herbal remedies by patients visiting a tertiary hospital in Garankuwa, South Africa.

**Methods:** Patients attending an out-patient's clinic at the Dr George Mukhari Academic Hospital were given a questionnaire regarding their use of herbal remedies for various reasons. Assessment was done on past, current, and possible future use of herbal interventions. These interventions were categorised into acute medical conditions, chronic ailments, and cultural uses.

**Results:** Respiratory tract infections were most frequently treated (34%). Other highly ranked uses included protection from evil spirits (32%) and for HIV/AIDS (29%). Digestive ailments (27%), hypertension (18%), and general malaise (17%) accounted for the remainder. Previous herbal use amounted to 74%, but only 30% indicated that they would use herbal medication in future.

**Conclusions:** Traditional medication plays an important role in many communities in South Africa. For this reason health care workers need to be aware of the conditions most frequently self-treated with herbal remedies. Having knowledge about the incidence of herbal treatment for a specific condition could alert the health care practitioner to possible reasons for unidentifiable drug interactions, adverse events, treatment failure, or even death.

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Prof Nurs Today 2017;21(4):36-40

## Introduction

South Africa has 20 456 indigenous plant species of which 2 062 (~10%) are used for ethnomedicinal purposes according to the latest International Union for the Conservation of Nature (IUCN) Red List index assessment of South African plants surveyed in 2009.<sup>1</sup> These plants have been used in the treatment of various diseases, either as a primary intervention or an add-on alternative therapy since the earliest days in our history. The Voortrekker Louis Treghardt's 1836 diary describes the use of natural remedies for a multitude of diseases.<sup>2</sup> Without exception, visits to traditional healers are a familiar activity for many people who rely on ancestral knowledge passed down from one generation to the next.<sup>3</sup> This practice accounts for innumerable hospitalisations resulting from adverse effects and drug interactions. Despite this fact very few studies have been conducted on assessing the safety of these traditional

medicines, which continue to be marketed as harmless forms of treatment with unsubstantiated and exaggerated claims in treating every disease known to man.<sup>4</sup> Moreover, legislative loopholes exist whereby traditional and herbal preparations may be sold without the necessary documented safety, efficacy, or drug interaction profiles needed for doctors to be aware of their potential harmful effects.<sup>5</sup> It is currently estimated that only 3% of herbal remedies sold in the United States have adequate scientific literature to support their claims.<sup>6</sup> In South Africa this value might even be lower.

Although local statistics on the use of herbal and traditional medications are lacking, it has been reported that approximately 50% of the population of the United Kingdom and Australia have used some type of alternative medicine at least once in their lifetime.<sup>7,8</sup> Studies conducted in the USA have identified important chronic conditions where patients choose alternative

medication as a means of treatment. These included chronic pain, anxiety, chronic fatigue syndrome, sprains/muscle strains, addictive problems, arthritis or rheumatism, severe headaches, depression, digestive problems, and diabetes.<sup>9,10</sup> A retrospective study evaluating herbal use in the treatment of hypertension in a rural Western Cape community found that other popular uses for herbal treatment included respiratory problems, diabetes, and the general well-being and maintenance of health.<sup>11</sup> A recent survey conducted on traditional healers in a rural KwaZulu-Natal community identified some of the herbs prescribed for various conditions but lacked detail in respect of the conditions, since the focus was mainly on the types and parts of the plants used in treatment.<sup>12</sup>

Patients are not necessarily forthcoming with their history on traditional medicine use when consulting their physician. A possible reason for this non-disclosure could be attributed to the perceived negative and judgemental response the health care worker may harbour towards the patient.<sup>7</sup> Health care workers are equally to blame by not always enquiring about their patients' alternative medication use. By being aware of the most commonly treated conditions for which herbal remedies might be used, health care workers could be more vigilant in anticipating possible drug-herb interactions, adverse effects, treatment failure, or non-compliance issues.<sup>13</sup>

## Aim

The purpose of this study was to identify the most common conditions for which patients resort to self-treatment with herbal remedies in conjunction with prescribed Western pharmaceuticals.

## Methods

### Study design

This was a descriptive quantitative study which made use of a questionnaire with closed-ended questions for assessing opinions and trends relating to herbal medicine use in out-patients visiting the Dr George Mukhari Academic Hospital in Garankuwa, North Gauteng.

One hundred subjects were sequentially enrolled over a period of three months. The questionnaire prompted 23 indicators for herbal use (Figure 1). The selection of questions was based on the self-treatment for various medical conditions and cultural belief practices. The participants had to indicate 'Yes/No' responses on all past, current, and possible future encounters with either traditional herbalists, or herbal remedies bought from a health shop as part of a self-treatment initiative. Signed informed consent was obtained from all willing participants in their home language. Face-to-face assistance was provided by registered nurses from the

department of pharmacology and therapeutics, Dr George Mukhari Academic Hospital, familiar with the protocol requirements.

### Ethics

Approval for this study was obtained from the Medunsa Research Ethics Committee (MREC), the CEO of Dr George Mukhari Academic Hospital, and the Head of the Family Medicine department. Participants were not reimbursed for their efforts, and questionnaires were completed anonymously.

### Statistical analysis

Statistical analysis was performed by Clnstat Statistical Services, Pretoria. All questionnaires were checked for completeness, and data were stored in an Excel spreadsheet. The analysis was of a descriptive nature, and responses to all the questions were summarised by frequency counts and percentage calculations. The percentage calculations were based on non-missing values and rounded to 0.1%. Subgroups of patients of particular interest were analysed using exploratory data analysis (EDA). All statistical procedures were performed on SAS, Release 9.2, running under Microsoft Windows for a personal computer.

## Results

### Demographics

The study population's demographic variables are represented in Table 1. There was nearly equal representation of males (50.6%) and females (49.4%). Most of the participants were in the age group between 45–54 years (33.0% of participants), followed by the 35–44 year group (23.4%). The majority of the participants were black (94.6%). Educational status revealed that 58.3% of the respondents had completed grade 12, with 35.4% having grade 7 as the highest qualification. The unemployment rate of 25.5% for the study population is well in line with the national average of 24.7% (National Census 2011). Income reflected that 23.7% of participants received some kind of government grant while 44.1% had an income between R 3 000–9 999 per month.

### History of herbal use

History relating to the use of herbal medications revealed that 74.2% of all respondents had used some form of unregistered herbal treatment at some stage during their lives. Of these medications 82.1% were bought from pharmacies and health shops. The remainder were directly obtained from traditional healers. It was noted that 35.8% of subjects would revisit their traditional healer first, before seeking a consultation from their local clinic or doctor.

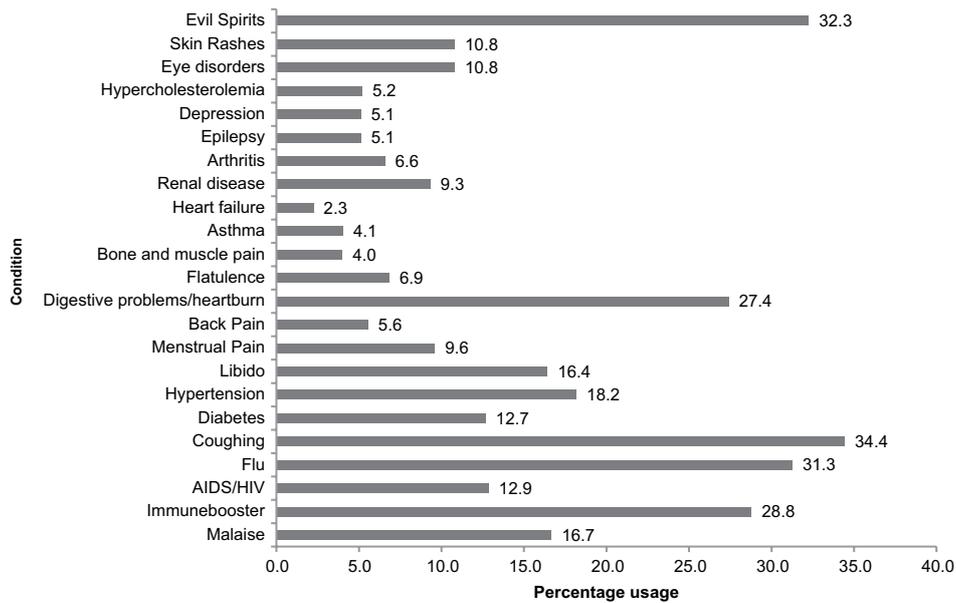


Figure 1: Conditions treated with herbal medications

### Predictors of herbal use

A summary of the conditions for which herbal use most frequently occurred is illustrated in Figure 1. Herbal remedies were mostly sought to treat respiratory tract infections, coughing (34.4%), and flu-like symptoms (31.2%). The use to ward off evil spirits was ranked second highest. Other frequent uses included the use as a general immune booster (28.8%), digestive problems (including heartburn, diarrhoea, and constipation) (27.4%), enhancer of libido and fertility problems (16.4%), and in the treatment of HIV/ AIDS (12.9%). The treatment of prescribed minimum benefit (PMB) chronic conditions (asthma 4.1%, epilepsy 5.1%, hypercholesterolemia 5.2%, and heart failure 2.3%) was relatively low when compared with the conditions listed above. This observation, however, excludes diabetes (12.78%) and hypertension (18.2%).

Figure 2 indicates the willingness of the participants to use the same traditional or herbal remedy based on their perceptions of the benefit for the specific condition. Patients indicated a very low willingness to repeat treatment for the following conditions: arthritis, heart failure, asthma, flatulence, back pain, and diabetes. It was also noted that no respondent indicated any benefit or repeat treatment for the cultural and historic use of protecting them from evil spirits. However, a perceived benefit of  $\geq 40\%$ , including the willingness to repeat similar treatment, was found for the following conditions: renal disease, skin rashes, respiratory tract infections, and as an immune booster.

### Discussion

Approximately 75% of the respondents admitted to the use of traditional medication at some point. This is significantly

Table 1: Demographic variables of study group

| Variable                 | n (%)     |
|--------------------------|-----------|
| <b>Gender</b>            |           |
| Males                    | 45 (50.6) |
| Female                   | 44 (49.5) |
| <b>Age group (years)</b> |           |
| 18–24                    | 2 (2.1)   |
| 25–34                    | 16 (17.0) |
| 35–44                    | 22 (23.4) |
| 45–54                    | 31 (33.0) |
| 55–64                    | 18 (19.2) |
| 65–74                    | 5 (5.3)   |
| <b>Race</b>              |           |
| Black                    | 87 (94.6) |
| Coloured                 | 3 (3.3)   |
| White                    | 2 (2.2)   |
| Indian                   | 0         |
| <b>Highest education</b> |           |
| Primary school completed | 34 (35.4) |
| High school completed    | 56 (58.3) |
| College completed        | 5 (5.2)   |
| Postgraduate completed   | 1 (1.0)   |
| <b>Employment</b>        |           |
| Unemployed               | 25 (25.5) |
| Employed                 | 67 (68.4) |
| Self-employed            | 6 (6.1)   |
| <b>Monthly income</b>    |           |
| R 1.00–2 999             | 23 (24.7) |
| R 3 000–9 999            | 41 (44.1) |
| R 10 000–19 999          | 6 (6.5)   |
| R 20 000+                | 1 (1.1)   |
| Government grant         | 22 (23.7) |

higher than reported in the United Kingdom and Australia, where the usage was between 35% and 50%.<sup>7,8</sup> These figures are in line with those from other developing countries such as India (65%) and Chile (71%).<sup>11</sup> A possible reason for the difference between developed and developing countries could be the beliefs people place in their traditional customs and values. This statement does not, however, correlate with the low response in willingness to use herbal remedies, as only 30% indicated seeking repeat treatment, regardless of the condition.

The use of herbal remedies for non-disease-like indications, namely superstition and the warding off of evil spirits, accounted for 32% from a total of 75% use. Several non-medical reasons for using herbal remedies could be postulated: enhancing self-esteem, protection from partners in abusive relationships, good luck, receiving money, and many more. Omitting this variable and comparing the results with previous international studies, the conclusion could be made that approximately 30%–40% of patients used herbal remedies for diagnosed acute and/or chronic medical diseases. This statement is supported in the published literature from a variety of isolated case reports: 32% herbal use in a UK epilepsy clinic;<sup>14</sup> 43% herbal use in a Norwegian headache clinic;<sup>15</sup> 45% herbal use in an Australian diabetes clinic;<sup>16</sup> and 62% herbal use in a Turkish asthma clinic.<sup>17</sup>

Physicians at Dr George Mukhari Academic Hospital should anticipate that about 30% of their patients use traditional or herbal medications for known chronic conditions. Cultural and traditional uses escalate this figure to nearly 75%. Structured, non-judgemental history taking should be advocated in patients complaining of respiratory tract symptoms, malaise, digestive ailments, renal disease,

diabetes, and hypertension, since these conditions are amongst those most commonly treated with traditional and herbal medications.

A few studies have recently been conducted in South Africa in quantifying and identifying commercial herbal preparations, but they did not elicit the conditions commonly treated by these preparations.<sup>18</sup> Most of these studies are area-specific and do not represent the total population. More local studies need to be conducted in order to establish a national database per region or province. However, it appears as if there is an escalating shift towards research in the area of herbal and traditional medicine, both locally and globally. This is reflected in some South African medical universities teaching basic concepts about commonly occurring herbs to undergraduate students. Collective data could ultimately be used to compare international results with South African trends.

### Study strengths

This study has generated scientific and epidemiological data which did not exist previously. It achieved its aim in identifying the common medical conditions that physicians should be vigilant about when treating patients not necessarily volunteering their use of herbal or traditional medication.

### Study limitations

The small sample size may lead to inaccurate conclusions. Increasing the size of the sample could potentially alter the results, but the validity of the data could be defended by the good correlation between the measured unemployment rate of 25.5% compared to the national unemployment rate of 24.7%.

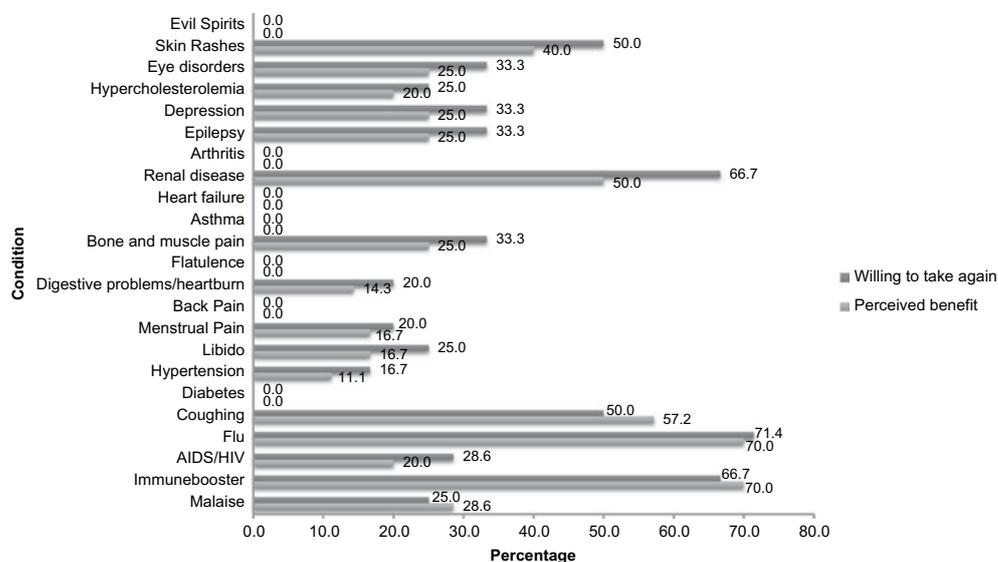


Figure 2: Subjective benefit and future use in treated conditions

## Conclusion

This study has identified the most commonly occurring conditions in which patients residing in Garankuwa use herbal remedies as an alternative form of treatment. Without formal enquiry, health care workers should be able to anticipate conditions that would be most likely co-treated with self-administered herbal remedies.

## Acknowledgements

Sr L Mathibe and Sr S Mabitsela from the Department of Pharmacology and Therapeutics, MEDUNSA campus, University of Limpopo, for assisting with the translation and administration of the questionnaires. Professor HS Schoeman for the statistical analysis of data collected. Barbara English of the research office of the University of Pretoria's faculty of health sciences for her editing services.

## Declaration

The authors declare that there is no conflict of interest and that all results reported are unbiased.

## References

- Williams VL, Victor JE, Crouch NR. Red listed medicinal plants of South Africa: status, trends, and assessment challenges. *S Afr J Bot.* 2013;86:23–35. <http://dx.doi.org/10.1016/j.sajb.2013.01.006>
- Grobler J. Louis Tregardt's diary as an historical source. *Tydskr Geesteswet.* 2013;53(3):465–80.
- Henn BM, Gignoux CR, Jobin M, et al. Hunter-gatherer genomic diversity suggests a southern African origin for modern humans. *Proc Natl Acad Sci USA.* 2011;108(13):5154–62. <http://dx.doi.org/10.1073/pnas.1017511108>
- Rybicki EP, Chikwamba R, Koch M, et al. Plant-made therapeutics: an emerging platform in South Africa. *Biotechnol Adv.* 2012;30(2):449–59. <http://dx.doi.org/10.1016/j.biotechadv.2011.07.014>
- Street RA, Stirk WA, Van Staden J. South African traditional medicinal plant trade – challenges in regulating quality, safety and efficacy. *J Ethnopharmacol.* 2008;119(3):705–10. <http://dx.doi.org/10.1016/j.jep.2008.06.019>
- Owens C, Baergen R, Puckett D. Online sources of herbal product information. *Am J Med.* 2014;127(2):109–15. <http://dx.doi.org/10.1016/j.amjmed.2013.09.016>
- Robinson A, McGrail MR. Disclosure of CAM use to medical practitioners: a review of qualitative and quantitative studies. *Complement Ther Med.* 2004;12(2–3):90–8. <http://dx.doi.org/10.1016/j.ctim.2004.09.006>
- Ernst E, White A. The BBC survey of complementary medicine use in the UK. *Complement Ther Med.* 2000;8(1):32–6. [http://dx.doi.org/10.1016/S0965-2299\(00\)90833-1](http://dx.doi.org/10.1016/S0965-2299(00)90833-1)
- Boon HS, Cherkin DC, Erro J, et al. Practice patterns of naturopathic physicians: results from a random survey of licenced practitioners in two US states. *BMC Complement Altern Med.* 2004;4:14. <http://dx.doi.org/10.1186/1472-6882-4-14>
- Astin JA. Why patients use alternative medicine. *JAMA.* 1998;279(19):1548–53. <http://dx.doi.org/10.1001/jama.279.19.1548>
- Hughes GD, Aboyade OM, Clark B, Puoane TR. The prevalence of traditional herbal medicine use among hypertensives living in South African communities. *BMC Comp Altern Med.* 2013;13(38):2–8.
- Coopoosamy RM, Naidoo KK. An ethnobotanical study of medicinal plants used by traditional healers in Durban, South Africa. *Afr J Pharm Pharmacol.* 2012;6(11):818–23.
- Chisholm A. Exploring UK attitudes toward unlicensed medicines use: a questionnaire-based study of members of the general public and physicians. *Int J Gen Med.* 2012;5:27–40.
- Easterford K, Clough P, Comish S, et al. The use of complementary medicines and alternative practitioners in a cohort of patients with epilepsy. *Epilepsy Behav.* 2005;6(1):59–62. <http://dx.doi.org/10.1016/j.yebeh.2004.10.007>
- Kristoffersen ES, Aaseth K, Grande RB, et al. Self-reported efficacy of complementary and alternative medicine: the Akershus study of chronic headache. *J Headache Pain.* 2013;14(1):36. <http://dx.doi.org/10.1186/1129-2377-14-36>
- Canaway R, Manderson L. Quality of life, perceptions of health and illness, and complementary therapy use among people with type 2 diabetes and cardiovascular disease. *J Altern Complement Med.* 2013;19(11):882–90. <http://dx.doi.org/10.1089/acm.2012.0617>
- Yasemin T, Zeynep Ayfer A, Yasemin Y, et al. Investigation into the use of complementary and alternative medicine and affecting factors in Turkish asthmatic patients. *J Clin Nurs.* 2012;21(5–6):698–707.
- Ndhlala AR, Stafford GI, Finnie JF, et al. Commercial herbal preparations in KwaZulu-Natal, South Africa: the urban face of traditional medicine. *S Afr J Bot.* 2011;77(4):830–43. <http://dx.doi.org/10.1016/j.sajb.2011.09.002>